

THE ZOOLOGIST

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ORNITHOLOGICAL REPORT FOR NORFOLK (1910).

By J. H. GURNEY, F.Z.S.

(Assisted by other Observers.)

(PLATE III.)

The Vernal Migration.—The unfailing March migration of Grey Crows, which has gone on from time immemorial—it was first noted in Norfolk as long ago as 1847 and 1848—again took place on March 6th, 7th, 11th, 12th, 15th, and 21st. The regularity with which they pass is very remarkable, and possibly in no other part of England is the exodus of Grey Crows larger. When this event was over, it was time to begin to watch for the spring migrants, of which the Pied Wagtail is the first. We had the Wryneck at Keswick on March 24th, and the Chiffchaff on the 30th, and after that the Swallow, Redstart, Blackcap, Greater Whitethroat, Ray's Wagtail, and Sedge-Warbler in pretty much their usual order, but the Cuckoo and Willow-Warbler were not so early as those noted at Brunstead by the Rev. M. C. Bird, who has furnished the following spring memoranda:—

January 6th, Snipe bleating.

February 11th, Blackbird singing; 12th, Kestrel's breeding cry heard; 18th, first Redshanks; 21st, Starlings paired; 25th, Chaffinches singing.

March 6th, Yellowhammers on clover-ley; 8th, Woodcocks
Zool. 4th ser. vol. XV., May, 1911.

on their return passage; 15th, Pied Wagtails and Stonechats seen; 17th, Thrush sitting on five eggs; 18th, Blackbird sitting; 21st, Hedge-Accentor frequenting high trees in their love-flights.

April 8th, first Swallow; 10th, first Cuckoo; 26th, Ring-Ouzel.

May 13th, Turtle-Doves; 21st, Spotted Flycatcher.

Golden Orioles are not, and never were, common birds in East Anglia, but I rather expected to have heard of some, as the Forest of Boulogne was ringing with their flute-like notes on May 28th. I have listened to a French gamekeeper imitating them very well, and in this way they may be drawn within shot.

Mr. Steele Elliott and others of your correspondents allude to the scarcity of the Corn-Crake, which is noticeable in Norfolk also. I cannot but think that it is attributable to their being shot in spring in the South of France, where anything which can be designated a *poule d'eau* (i.e. Spotted Crake, Baillon's Crake, Land-Rail, &c.) is in great request, the close-time being suspended for their benefit until the middle or end of April, the time varying in different Departments. That the decrease in the number of Spotted Crakes is due to that cause seems also probable, for the birds are reckoned delicacies of the first order, and, in fact, are made a special object of pursuit in spring, hundreds being sometimes killed in a single day on passage (see 'Richesses Orn. du Midi de la France,' p. 488).

The Autumnal Migration.—This is always a time for the ornithologist to be on the alert. Rough-legged Buzzards began to appear in October, and Water-Rails turned up in such odd places as the middle of Cromer town—on a fishing-boat (C. Ticehurst)—and in a bedroom (A. Patterson). Water-Rails are birds which, trusting more to their legs than to their wings, drop anywhere. Mealy Redpolls were very much in evidence, particularly near Yarmouth, but less so at Cley. Mr. E. Saunders writes of their being still about in gardens as late as November 14th, and Mr. Dye of many taken by birdcatchers. Whether there were any *S. linaria holboelli* among them was not ascertained. The chief arrival of Woodcocks evidently took place during the first week of December; on the 1st the Yarmouth wind register was E.N.E., force 6 (a gale); on the 2nd,



E.N.E., force 5; on the 3rd, E., force 6. Undoubtedly, it was these very high easterly winds which brought them over. In Norfolk the Woodcock has become more of a winter than an autumnal migrant, but one wonders whether these December flights across the North Sea are altogether voluntary ones, or whether these Woodcocks are not sometimes driven west against their will.

The Great Titmouse has long been a known migrant to Norfolk, a fact which I believe my late father was the first to recognize (*cf.* Zool. 1848, p. 2071). It has been taken on different occasions at our floating lightships, whence I have more than once received it. In the present instance the first Great Tits to arrive, or which came under the notice of the naturalist, were some seen on Lowestoft Denes by Mr. C. B. Ticehurst. On Oct. 1st he saw some, and on the 12th there were others in bushes near the sea, and on the 15th four were picked up at high-tide mark. At Yarmouth, Mr. Ticehurst was informed, about twenty were actually viewed as they came in from the sea, and a birdcatcher took several on Yarmouth North Denes. All examined by Mr. Ticehurst belonged, in his opinion, to the Continental race *Parus major major*, considered to be distinguishable by its brighter coloration and more slender bill (see Prazák, *Orn. Jahrb.* v. p. 239). This signal irruption of Titmice was equally marked on the coast of Yorkshire, and apparently in Lincolnshire, where my correspondent, Mr. Caton Haigh, writes of many being seen to the south of Humber-mouth on Oct. 17th, which was two days after I had met with them on the shore at Cley. Mr. Caton Haigh also speaks of a smaller flight on Oct. 24th.

The Visitation of Crossbills.—All through the spring of 1910 Crossbills were continually in evidence, those on the coast being, I presume, roaming parties, which kept giving way to new arrivals from inland. Their wanderings were traced in last year's narrative (Zool. pp. 121, 129) up to March 2nd, 1910, and continued by the writer in the *Norwich Naturalists' 'Transactions'* (ix. p. 71) up to May 14th—a record of the greatest Crossbill migration ever known. To take up the thread at that point can only be done locally. I should first mention that thirty-two were counted quite early in the morning by the

gardener at Northrepps, which considerable flock was joined later in the day by two smaller ones, so that altogether he estimated that there were no fewer than sixty-five Crossbills round the Hill House within a radius of four hundred yards. This parish is well wooded, with plenty of silver-fir, larch, and Scotch, in woods a mile or so from the sea. On June 22nd he counted about twenty-six, and on the 30th twenty-three. Again, after an interval, fourteen more were seen at the same place on Aug. 6th, and eight on Aug. 10th, and then, after a lapse of four weeks, three on Sept. 10th, while on Oct. 4th five were recognized at a point nearer to the sea. Whether the above observations all refer to European Crossbills, or any of them to the English race, from which they have been separated by Mr. Hartert, I must leave, as none were shot. The grounds on which Mr. Hartert distinguishes the English Crossbill from the Continental form are that the coloration is duller in both sexes, and that the bill is less elongated and less pointed, but it requires an expert to decide differentiations like these.

There is no doubt that most of the Crossbills have now taken their departure, but when they went is another matter, for it is so much easier to register the coming of birds than their departure. It did not seem that their numbers greatly lessened before July, 1910, but September probably saw many departures. On Sept. 5th a female, which may have been just going to leave, was obtained by Mr. F. Richards almost at the extremity of Blakeney Point, and I learn from Mr. E. C. Arnold of the presence of a small flock on Morston Marsh hedge about Sept. 10th, which is suggestive of immediate migration, as it is near the sea. Two were also reported by Mr. A. Napier from Holkam sand-hills on Oct. 23rd, close to the shore. But that all the Crossbills did not go is certain, for on Dec. 20th one was seen at Southacre by Mr. Daubenny, and about the same time the presence of some at Castle Rising was announced by Mr. Tracey, and others seen at Fritton by Mr. Buxton.

Particulars of their nesting in the Thetford and Brandon district (where Mr. Noble was the first to record nidification) have been elsewhere published, and need not be repeated. In quite another part of Norfolk a nest with four eggs was examined by Mr. N. Tracey on March 28th, 1910, *viz.* near King's Lynn.

Subsequently Mr. Tracey was told by the gamekeeper of his having seen broods of young Crossbills being fed by the parent birds in April at the same place where the nest was. A nest was also found at Swannington, near Attleborough, on April 16th, by Mr. W. G. Clarke, almost at the end of a Scotch-fir branch, some twenty-five feet from the ground.

Chief Rarities.—The principal rarities for the year were a Roller and a Bluethroat in May, a Black-headed Wagtail in June, a Common Crane and a Caspian Tern in August, and a Tawny Pipit and Yellow-browed Warbler in September. In February a Little Owl was caught at Costessey, in a rabbit-trap (E. Roberts), and during the autumn Mr. R. Clarke, of Snettisham, received no fewer than six Little Owls. It is a pity that people should be at the expense of turning out these engaging birds merely to have them killed by the irrepressible gamekeeper.

Rainfall, as registered by Mr. A. W. Preston : Total for 1910, 31·84 in., above the Norfolk average by 6·09 in. (four inches more than last year). Prevailing direction of wind, west.

JANUARY.

1st.—A raw day ; nothing to remark upon except the unpleasant weather. My nearest neighbour's drake Teal died, aged nine years ; as a rule pinioned wildfowl do not mind cold if they are well and frequently fed. On the same pond there is a Pochard drake more than fifteen years old.

22nd.—A heavy fall of snow, lying to the depth of five inches on the level.

23rd.—Yesterday's fall of snow had its expected effect on bird-life. Many Starlings were to be seen on the move, flocks of them hurrying somewhere, and frozen-out Otters lost no time in making their way down-stream. One result of this sharp weather was the very unusual advent of a flock of twenty-five Dunlin to Eaton Common, the largest company I have met with on an inland river. They were feeding greedily, with a score of very tame Snipe, at a place in the meadow which had been kept open by an overflow of the Yare. Next day there was a sudden drop in the barometer, and every Dunlin had gone.

24th.—Another consequence of this sharp weather was that

a Puffin got out of his reckoning, and was picked up to-day by a dog in West Lexham (S. Long).

30th.—Seven Bernacle Geese visited Breydon Broad, as I am informed by Mr. B. Dye, who handled two of them in the flesh.

31st. — Bridled Guillemot picked up on Yarmouth beach (B. Dye).

FEBRUARY.

12th.—A Common Buzzard,† which settled on a dead Wood-Pigeon used as a decoy, not far from Norwich, promptly fell a victim to its temerity.

MARCH.

21st.—Greater Spotted Woodpecker constantly “jarring.” A Dabchick† picked up on the beach at Overstrand.

APRIL.

22nd. — Spotted Crake “telegraphed” near Aylsham (E. Roberts). Carrion-Crow at Keswick.

23rd.—A Garganey Teal sitting closely on ten eggs, and on May 3rd she was still on the nest (J. M. Goodall).

24th.—Eighty-six Herons' nests counted in Reedham heronry by Mr. S. K. Long.

MAY.

1st.—A Hoopoe at Cringleford Hall; seen close to the house (Keppel).

5th.—Under this date Sir Digby Pigott writes of a Tawny Owl's nest at Sheringham, in a hole in the ground in a wood, but clear of trees. The hole was what is here called a “blind” (*i. e.* unfinished) rabbit's-hole, only three feet deep, and contained four young Owls.

8th.—Sleet, but no wind. Mr. J. E. Knights writes of having seen to-day four Spoonbills flying over Yarmouth North Denes, at about 1 p.m., at no greater height than twenty yards. About half an hour later he saw them again passing over the outskirts of the town, and scarcely higher than the level of the chimneys, the interval having no doubt been spent on the beach. The populace was too unobservant to be aroused to any interest by their appearance, although it might have been attracted, as Mr. Knights' attention was, by the noise they made when on the

wing—like somebody rattling a can—a sound no doubt proceeding from the contact of their pinions with the air. Presently they were seen to wheel round and go off in the direction of Breydon Broad. On the 15th a Spoonbill put in an appearance on Breydon Broad, where it was watched and protected until the 25th. On the 27th a second appeared.

13th.—E.S.E., 4. A bird which, from the description, was possibly a Blue-cheeked Bee-eater (*Merops persicus*) (cf. 'British Birds,' iv. p. 126), was seen by Capt. S. E. Holland and others in an osier-bed at Mundesley-by-the-Sea. Within a few days of its occurrence a Roller was also seen at Garboldisham by Mr. A. R. Dunell. A rather high easterly wind had prevailed for some days, which may have had to do with the Bee-eater's advent, if it was one.

15th.—I am informed, on good authority, of a Curlew's nest with four eggs, found by a gamekeeper at Royden Fen. In 1889 and 1890 this species was believed to have nested at Wolferton (Zool. 1889, p. 336), but complete proof was lacking.

JUNE.

17th. — Thirteen young Sheld-Ducks on Breydon Broad (G. Jary), perhaps bred on Caister Denes.

19th. — A Black-headed Wagtail (*Motacilla flava melanocephala*), identified near the sea at Cley by Mr. J. R. Harding ('Field,' July 2nd).

20th.—Another Spoonbill appeared on Breydon (G. Jary), but left on the 24th.

30th.—E., squally. A clutch of three incubated Ringed Plover's eggs found on Eccles beach by Mr. Bird. A mysterious black bird like a Goose alighted on Breydon Broad during a heavy tempest, but went away without Jary being able to identify it.

JULY.

No notes worth recording, except a Quail seen at Eccles on the 11th (M. Bird), and three Green Sandpipers at Sustead on the 29th (G. Davey).

AUGUST.

5th.—Mr. Hamon Lestrange informs me of a female Crane, shot at Thornham, which had been seen about the neighbourhood for a week or so before meeting its fate.

7th.—A Red-legged Partridge's nest containing fifteen eggs discovered in a hole in a straw-stack at Long Stratton (P. B. Fickling), and another nest in a similar situation, with the same number of eggs, at Pulham (F. Adcock).

9th.—N.E., 4. A Caspian Tern settled on Mr. Jary's punt, which was moored about fifteen yards off his houseboat in which he was, remaining half an hour, after which it caught some whitebait and flew away; he says its bill was very red. It appeared to be tired, and was not seen again on Breydon Broad. This tidal water has been known as an occasional resort of the Caspian Tern since 1825; it was visited by one in July, 1901, and again by another in July, 1902.

30th.—A Hoopoe seen on the Bure Marsh, Yarmouth (Dye).

SEPTEMBER.

1st.—Red-necked Phalarope at Sidestrand (S. Cummings).

3rd.—W.N.W., 3. Yellow-browed Warbler at Southwold in Suffolk (J. G. Tuck).

12th.—Three Black-tailed Godwits on Breydon (Dye).

13th.—Spotted Crake at Ruston (Bird).

14th.—E. Influx of various small birds observed by Mr. Borrer (see 'British Birds,' iv. p. 182).

15th.—N.E., 3. A Tawny Pipit shot on the coast (Bull. Brit. Orn. Club, xxvii. p. 16).

16th.—N.E., 5. Mr. F. Richards identified a Yellow-browed Warbler, and an Ortolan Bunting on the coast.

20th.—N.E., 3, at Blakeney; N., 4, at Yarmouth. Mr. E. C. Arnold saw a Barred Warbler, perhaps the same which was shot on the 27th, and subsequently exhibited at the British Ornithologists' Club.

OCTOBER.

1st.—A young Gannet close in shore at Mundesley (B. Riviere).

3rd.—W.N.W., 3. About forty Linnets flying parallel with the coast. Yellow-browed Warbler in Lincolnshire (Caton Haigh).

8th.—No wind. A few small flocks of Finches going north at 6 a.m., too dark for identification.

12th.—Misty. A Coot† picked up at Swardeston.

13th.—N.E., 7. Very heavy sea and high wind; about

12.30 p.m. a large steamer went down within sight of Sheringham, with the loss of many lives. Many flocks of Gulls, unable to remain stationary, were to be seen passing Cromer, and thousands, I understand, were visible on Hickling Broad (A. Nudd). This Broad is about three miles from the sea, and here they could obtain temporary shelter from its violence.

14th.—E., 6. Wind still very high; a few Gulls were to be seen hugging the cliff rather than face the wind, but the major part of them had long since passed on, and were by this time possibly hundreds of miles away.

15th.—S.E., 3. In the course of a walk along the shore my son and I met with a Snow-Bunting and a Purple Sandpiper, and further inland a Rough-legged Buzzard; we also heard of another Buzzard, a Grey Shrike, and a Peregrine Falcon. During the night there had been an arrival of Golden-crested Wrens, some of which had dropped into the first cover they met with—grass among the shingle.

16th.—No wind. At 8 a.m. a flock of Starlings, estimated at nearly a thousand, passed over Northrepps, going north-west; also a few Rooks and Jackdaws (W. Burdett). More Goldcrests at Yarmouth (Dye).

17th.—A considerable incursion of Rough-legged Buzzards marked the autumn, but I will not guarantee that the following dates of Buzzards seen or shot all refer to different individuals. This fine bird is now much persecuted in Norway, whence our supply probably comes, and consequently is a good deal rarer in England than it used to be:—Oct. 15th. Cley, Felbrigge,† and Holt. 17th. Cley and Yarmouth. 21st. Thorpe Market (H. Cole), and Salthouse (?). 24th. Hickling (Nudd). 25. Rough-ton (Gunn). Nov. 2nd. Cromer. 6th. Benacre (C. Ticehurst). 19th. Beccles† (contained the remains of a hen Pheasant), Weybourn, and Hillington (R. Clarke). During December, one at Wheatacre (or two), one at Aldeby (R. Tilney), one at Raveningham (Tilney), and one at Wrentham, in Suffolk. In January, 1911, one at Gayford (Clarke).

18th.—Young Gannet at Cromer.

28th.—A solitary Snipe seen at Hoveton by Mr. Barclay.

30th.—A Long-eared Owl on the beach at Yarmouth (Dye).

NOVEMBER.

1st.—About this date an orange-coloured Goose, which Mr. A. Napier failed to identify, joined the herd of Pink-footed Geese at Holkam (cf. Zool. 1910, p. 134).

2nd.—Wheatear at Eccles-by-the-Sea (Bird).

3rd.—Grey Phalarope at Yarmouth (Gunn).

14th.—Land-Rail at Yarmouth (E. Saunders).

18th.—W.S.W., 3. About midday a gale sprang up, with intervals of sleet and much rain; it was not higher than force 3 to 4 in Norfolk (sixteen to twenty-five miles per hour), but at Spurn Point it got up to force 8. I marked about eighty Teal† get out of a pond in a large wood near the coast.

19th.—N. Wind north and still high, reaching to force 7 at Spurn Point. At 8.30 a.m. Rooks and Gulls were just topping the houses next the sea at Sheringham as they endeavoured to face it. Large flocks of Wild Swans were seen at Holkam, and flights of Wild Geese at Brunstead and Bacton (M. Bird). I think this gale showed its effects on the Little Auk more than on any species. Many were reported at sea on the coast of Yorkshire, no doubt pressing southwards, and almost simultaneously they appeared off Blakeney and Cley, also at Cromer and Lowestoft, at which latter place seven or eight came under Mr. Ticehurst's notice. But the migration did not reach anything like the dimensions of that of 1895. Several unfortunates were picked up inland at Hickling, Holt, Hellesdon, Eye, Rockland, and Buckenham.

22nd.—Under this date Mr. A. Napier writes of a Glaucous Gull on the Holkam Lake, where it had been for some time:—"The Ducks and Coots, especially the latter, seem to be terrified of it. There was one here in the spring, and I think it played havoc with the nests of the Canadian Geese; at any rate, we found the eggs in many of the nests broken, and I watched the bird making a thorough search of the island."

25th.—Waxwing at Cromer (F. Barclay), and Mr. Roberts had another.†

26th.—Thirty-two Wild Swans passed over Hickling water (Nudd).

29th.—The destructiveness of the Wood-Pigeon is becoming more and more apparent. At a meeting of the Norwich Natura-

lists' Society to-day, Mr. E. Roberts exhibited 1188 grains of barley† taken out of the crop of one Pigeon. It is true that this was grain which had probably been strewn for Pheasants, but I doubt if the same can be said of 1371 grains of barley, 94 blades of young clover, and a bean, which Mr. Bird informs me were found in a Wood-Pigeon the other day by Nudd.

30th.—A Fork-tail Petrel, which had been taken alive near the Cockle Lightship, Cromer, two miles from the shore, received by Mr. Dye, who also mentions a Stormy Petrel, caught alive in the harbour.

DECEMBER.

2nd.—A Pintail drake,† shot by Mr. Buxton on the river at Colney. Six Bernacle Geese seen at Cley by Mr. Ramm; none shot.

8th.—Mr. Roberts showed me a full-sized Mole† which he had taken almost uninjured out of a Heron, in the gizzard of which he also found the remains of another, together with one small fish. Both moles and rats have been very numerous this year in Norfolk.

9th.—Two pinioned Brent Geeset† killed, presumably by a Fox, their heads neatly bitten off about the middle of the neck; afterwards two Egyptian Geeset† shared the same fate.

10th.—Two Green Sandpipers† at Intwood Sluice, and another on the 18th.

VARIETIES OF PLUMAGE.

February 28th.—A white Hawfinch was seen by Mr. Hamond at Twyford, where it continued to haunt the same three thorn-trees up to March 20th. Although very conspicuous, it was not an albino, as there was some colour on the head. In March it paired with one of the normal colour, but the nest, if they made one, was not found.

April 16th.—A white Wood-Pigeont† received at the Museum from Great Snoring; eyes of the usual colour. Another† was shot at Holkam in September (Gunn).

August 20th.—A fawn-coloured House-Martin on Sidestrand cliffs (S. Cummings). In August, Mr. B. Riviere caught a white Hedge-Accentor at Norwich, and kept it alive for some weeks; possibly it was a progeny of the same parents as the one recorded last year (Zool. 1910, p. 135).

September.—At the close of September, Mr. T. E. Gunn had in another of the singular red Partridges (*Perdix montana*) from Lenwade, and was told that a second was seen. It is remarkable how persistent the race has been in this particular district, where it was first recognized in December, 1896, and where no protection has been given to it. It is not known to have been shot in other parts of Norfolk that I am aware of. The first recognition of *P. montana* in England appears to have been in Northumberland in 1863. Whether these sprang from imported eggs cannot now be ascertained, but that the Norfolk birds have done so there can be little doubt. The number of Partridge's eggs sent over from Hungary, South Austria, and other parts of the Continent in the last thirty years have been very large, and a great many have found their way to Norfolk and Suffolk. Twenty-two of these red birds have now been recorded in Norfolk alone, and no doubt others have been shot; there seems no reason why, if sportsmen would stay their hands for a few seasons, a breed should not be established. Their colour is always the same when they are adult—that is, yellow heads and dark red bodies—offering a handsome contrast to the common type of Partridge. I have seen no intermediate phases of plumage, allowing for difference of age.

October 15th.—A Redwing† with a bleached tail and some white on the wings shot by Mr. Catley. Another,† nearly white but showing a little of the chestnut flanks, was received by Mr. Gunn in December.

November 12th.—A pure white Gull, seen by Mr. R. Pinchin with some Common and Lesser Black-backed Gulls at Blakeney, may have been only a Glaucous Gull or an Icelander in the white stage which these Gulls pass through.

FOOD OF THE STARLING.

As usual, when the weather happens to be mild at Christmas, Lapwings and Starlings were to be seen on the young wheat. There is considerable discrepancy of opinion among agriculturists as to whether the Starling does more good or harm. In their anxiety to peck out grubs they displace a great many blades of wheat, most of which turn yellow and dry up, and the kernels die, which naturally causes some annoyance to the farmer; but

besides that, they often eat the kernels, probably when they begin to sprout and are milky.

Ten Starlings, recently shot at Suffield (on April 6th, 1911) by Mr. J. H. Bugden whilst feeding on a field of spring wheat, were found, when cut open, to contain whole kernels of wheat, and kernels of oats, which they had evidently just dug up. Some, Mr. Bugden informs me, had nothing in their crops at all but corn; others had corn and wireworms. Four more Starlings, shot by Mr. Bugden the following week, had also been eating corn. These were submitted to Mr. John Hamond, of Bramp-

Bird.	INJURIES.		BENEFITS.		Neutral and Undetermined (as yet).
	Vegetable Matter, &c.	Insects, &c.	Vegetable Matter, &c.	Insects, &c.	
(1) Male ..	20 grains of wheat, some sound, some germinating, and some little more than husk, 1 grain of oats	2 centipedes	2 daisy heads	About 23 wireworms of all sizes — some whole & some in segments, 3 small snails, segments of the millipede, 1 click beetle, 2 fly pupæ (probably Anthomyid)	2 spiders, 4 fly grubs (what sort not yet determined)
(2) Male ..	6 grains of wheat, with a large amount of wheat husk and some germs	1 Staphylinid beetle, 1 Staphylinid beetle grub, 1 Carabid beetle, 1 centipede, 1 Syrphid fly grub (eats green fly)	2 weevils, 2 click beetles, 1 wireworm	A few small pieces of beetles
(3) Female	10 grains of wheat as in (1), with a moderate amount of wheat husk, and germ with young roots	2 centipedes	3 daisy heads, 1 seed of iron-grass (<i>Polygonum aviculare</i>)	15 wireworms, some whole and some in segments, 7 click beetles, 1 small snail	1 fly grub as in (1), and few beetle remains
(4) Female	7 grains of wheat as in (1), with a moderate amount of husk (wheat)	2 Staphylinid beetle grubs, 1 small Staphylinid beetle, remains of 10 Carabid beetles	16 wireworms, some whole and some in segments, 6 small snails, 4 click beetles (<i>Elater</i>), remains of 11 weevils	2 spiders, beetle remains as yet unidentified

ton, for critical examination, and the results printed in our local paper ('The Eastern Daily Press,' April 15th), which are so interesting that I shall make no apology for quoting them (see Table, p. 173) :—

Judging from these facts, and from those which have already been recorded by Mr. Kelso (Zool. 1910, p. 144), I am afraid it must be recognized that Starlings are not the harmless birds which they are usually considered to be. On the other hand, one is reluctant to give so handsome a bird a bad name, and it cannot be denied that their utility as destroyers of insects is great.

Mr. Hamond's dissections of his four Starlings show a diet of forty-two grains of corn as against sixty-nine wireworms and click-beetles (the former being the grub of the latter); the balance therefore, in this case, was in favour of the Starlings.

SWAN × GOOSE HYBRID.

There is at present living, at a farmhouse near Cromer, a hybrid Swan. This anomalous bird, which is the produce of a male Mute Swan and a female domestic Goose, both of them the property of Mrs. A. T. Reynolds, of Beeston Priory, was hatched in April, 1910. Another was hatched with it, which unfortunately was subsequently killed; there being no gander on the place their parentage is apparently beyond dispute. As will be seen from one of the photographs which Mrs. Reynolds has had taken of it, this hybrid is more like a Swan than a Goose in shape, and its long neck, which at times it doubles up in Swan fashion, contributes to the similarity. In colouring it rather more resembles the Goose (*cf.* Plate III.).

BLAKENEY TERN SETTLEMENT.

The following memoranda on the prosperity of the Tern Settlement at Blakeney have been supplied to Mr. Q. E. Gurney by the watcher in charge, who considers 1910 to have been the best season he ever had, as there was an extra quantity of Terns of both sorts, and they did exceedingly well. He was fortunately able to trap several rats and stoats :—

April 26th.—Lesser Terns arrived.

28th.—Common Terns arrived.

May 16th.—Lesser Tern's nest with eggs.

19th.—Common Tern's nest with eggs.

24th.—Plenty of nests of Common and Lesser Terns.

31st.—Fresh nests of Common Terns.

June 6th.—First Lesser Terns hatched.

10th.—First Common Terns hatched.

19th.—Common and Lesser Terns hatching all over the place.

24th.—Young Terns feathered.

29th.—Several young Lesser Terns flying.

July 9th.—A few young Terns killed by the tide.

August.—In this month there were several nests with eggs.

AN OBSERVATIONAL DIARY ON THE DOMESTIC
HABITS OF THE SPARROW-HAWK (*ACCIPITER*
NISUS).

BY EDMUND SELOUS.

(Concluded from p. 110.)

At 6.20 p.m., whilst I am watching the female on the nest there comes the accustomed cry of the male, and in a moment or two she rises and flies straight towards it. I can see the final sweep up to the branch on which the male sits, and almost immediately he strikes away to one side, having evidently delivered his charge. The female, for some little while, stays away from the nest, flying, at intervals, from one tree to another, and crying from time to time, as I have heard her, when feeding. I can just see, once, when she flies, that she carries something, but no more. At 6.38 she flies up on to the nest, utters the cry there (which is unusual), and then begins to tear up what is perhaps—or was when she received it—a whole or only decapitated bird, for now, at 6.55 she is still doing so, though the male has for several minutes been back and crying in the plantation. Now, at 6.58, the meal at last seems over, having lasted just twenty minutes. Yet on this as on every other occasion, with one perhaps partial exception, I have not observed any "pluming."

I again note that the tearing up of the booty always takes place now on the side of the nest's rim opposite to where it used to, and this independent of the direction from which the bird comes in. The side at first used was indeed that which the bird first comes to on flying in with its booty, for the male hawk almost always enters the plantation on that side of the nest, yet this can hardly have been the reason for, at the *very* first, just after the hatching, the side now in use was selected. Moreover, in each half of the circumference of the nest there are various points at which the bird might stand to tear up the booty, whereas it has throughout only done so at one in each, the

two being opposite one another, as far as I am able to judge, along the line of the greatest diameter. It is at these two points also, and these only, that I can recall having seen the bird standing on the rim of the nest. It looks, therefore, as if there were two special places, and two only, where the female hawk, who is alone the distributor, stands either to perform this office, or to rest and digest.

I now mention that when the male had this last time delivered the booty brought in by him to his partner, he made a dive down amongst the foliage in the near proximity of the nest where the dead Redstart was once placed, but not, I believe, on to it. I had, however, in consequence, intended to examine this nest before leaving (as I have done daily, or almost daily, without finding anything stored there), but forgot it. This is the more to be regretted because the action certainly seemed the outcome of some special object on the part of the bird making it, and, on account of the great quickness, and, as one might say, lightness of motion characteristic of the species on such occasions—for the passing of the booty, which I could never actually see, would be a very similar one—it is quite possible that something really was a second time placed in the nest. Why otherwise such a bird as the Sparrow-Hawk should suddenly have flown thus in towards the trunk of this tree, at so slight a height above the ground, it is not easy to imagine. In regard to the long exeat (some forty-five minutes) of the female hawk, and her return at the end of it without anything, she may possibly either have been foraging for herself or stretching her wings merely—supposing that she did not sit all or most of the time in the plantation.

July 2nd.—In plantation about 3.30 a.m., and take up a new position commanding both that part of it where the male hawk usually makes his entry and also the nest. At 4.5, when first able to make use of the glasses, I can only distinguish the nest, but at 4.25 I see the female hawk standing on the rim of it. She has been there all the time, but in the gloom I had mistaken her for one of the branches amongst which it is lodged. All is now quiet, the hawk so motionless, she might well be asleep, and it is not till nearly 5 that I hear the cry of the male in the plantation. Then in a moment or two she rouses herself, and

flies directly to him. I catch a glimpse of the two together in the air, and then of a pair of claws stretched down and grasping something that looks larger than has hitherto been the case. They are those of the female, as afterwards appears, for I follow her thus laden into and from one tree to another, then into a third, and from this to the nest. But though the booty certainly looks larger, and from the hawk's way of picking at it seems to stand further out from her feet than it has before—for she bends her head less inwards—yet the duration of the banquet does not bear this out, since it is over in five minutes. It is all, or nearly all, given to the chicks. This, and my last observation of yesterday, assure me that no change has been initiated in the domestic economy of the birds, and that the female is supplied, both for herself and young, entirely by the male, not only, as I believe, from the time of the hatching of the eggs, but during the incubation as well, for there were the same cries of the male as he entered the plantation, and the female flew to him in just the same way.

About 5.35 the male re-enters the plantation, but he cries for some time before the female goes to him. He does not desist or go away, and here again it is evident that the one bird is as interested in delivering the food as the other is in receiving it from him. As has been seen, if kept too long waiting he will even deposit it, himself, in the nest. At last, in perhaps some ten minutes, the female hawk flies to her mate, there is the usual meeting, and afterwards I see her standing on a bough with something that might be a quite small dead bird held in one cruel-looking claw, and uttering her plaintive-sounding cry. Soon she flies to the nest with it, eats ravenously herself, for a little, then feeds the chicks, and stands statuesquely. The joint meal takes some five or ten minutes.

July 4th.—This last morning of my observations—for I leave by the afternoon steamer—tallies with my previous ones. I entered the plantation at 4.20 a.m., finding the hawk on the nest, and about 5 the voice of the male was heard, she flew to him very shortly, and at 5.10 returned and fed the chicks—which did not take quite five minutes. More than this I was unable to see, but there is no need of further repetition. As always, the voice of the female hawk was heard on this tree or that several

times between her flying to the male and returning to the nest. The female, when I came, was covering the chicks, as from the beginning. The latter are now very conspicuous during the feeding, and, as I have never been able to distinguish more than two, I have no doubt that this is the brood.

A short *résumé* of the principal facts contained in the above observations may here be added. It is clear that there is a marked differentiation of the domestic habits, as between the male and female Sparrow-Hawk. The female alone incubates, and, from a reperusal of my notes, I am inclined to think that, even during this period, she is to some extent, at any rate, supplied with food by the male. Possibly she may be so entirely, or almost entirely, and it would seem that the booty is not always delivered to her personally, but may be deposited by the male in some place that they both know of, from which she can take it at her pleasure. That it once was so deposited, and that she did so take it, are facts, nor can they be supposed to stand alone. On one other occasion, also, there was an appearance of the female having taken something that had been so deposited on the branch of a tree—as the other had been in, or rather on, an old Jay's nest—but the question is whether the female herself, or the male bird, had made these deposits. The former would seem the more likely, for those who hide can find, and since such booty might conceivably have been received by the female from the male in the first instance, the question of the bird's habits in this respect would be unaffected. In the Jay's nest thus used, however, we seem to have something in the nature of a special known place of deposit, and the fact that the male hawk did, on one occasion, make what looked very like a special descent upon it—its situation being such as to render an accidental or chance visit very unlikely—suggests that it may have been he who placed the dead Redstart there to supply the future needs of his partner—possibly also his own.

To whatever extent the female Sparrow-Hawk, whilst incubating, may be supplied with vivres by the male, the latter's duty in this respect becomes extremely rigorous from the time that the eggs are hatched; yet it is to be noted that both birds were seen by me flying together, apparently on the look-out for

prey, at a time when, in all probability, the young were out, though, as their arrival must have been, at most, a very recent event, this may have related rather to the incubatory period than the one succeeding it.

The male only brings the booty procured by him to the near neighbourhood of the nest (showing a choice of locality in this respect), where it is received by the female, the delivery taking place either on the branch of a tree or in the air. If, however, she is slow in coming, he grows impatient, and may then fly to the nest, and there alight and deposit his offering. This is a very rare occurrence, but it would, not improbably, always take place were the arrival of the female to be inordinately delayed.

Having, only in one instance, seen the female hawk pluck the bird that was delivered to her, and that, as it appeared to me, to but a modified extent, it would appear that this office is performed by the male. Such plucking may be an instinctive or accustomed act following close upon the striking of the prey, in which case we need not associate it with any conscious idea, in the male hawk's mind, of doing a service to his partner. A question, however, is raised by the condition of the dead Redstart that had been deposited in a Jay's nest. Not a feather of this bird appeared to have been so much as ruffled, so that unless it was afterwards plucked by either of the birds, and left there (probably partially devoured), it must have been eaten, feathers and all, by the female, for assuredly she did not, at that time, pluck it, or I must have observed her doing so. There were no feathers on the ground underneath the branch where she sat feasting, nor did any fly out on the air. Possibly, however, some other plucked bird had been left in the place of this earlier deposit after I left the plantation at 7 a.m. on the day that I made the discovery—for I did not return till the following morning. In any case, we have the fact of the storing and subsequent seizure, though only—demonstrably—in this one instance.

Besides plucking or "pluming" the bird brought in by him, the male, it seems likely, frequently makes his own meal on it, so that the final presentation to the female is of a morsel and not a whole dish. I know not how else to account for the

appearance of what I have sometimes seen the male and also the female hawk carrying, or for its smallness.

When on the nest the female Sparrow-Hawk takes no trouble to eject her pellets, or castings, outside of it. I could not find any under the home-tree, and upon two occasions I saw one extruded into the cup of the nest. It is the same with the dejecta both of the young and, presumably, her own. There is no projection of them over or on to the nest's rim, and no subsequent cleaning of the nest, in this respect, by the mother bird. I have never seen anything of any sort or kind carried away from the nest.

The female hawk receives the supplies of the male, both for herself and the chicks. She often makes her meal upon the nest, and does not always share it with the latter. Her habits in this respect may vary with the age of the chicks.

The prey is torn up upon the rim of the nest, and two special parts of it, opposite one another across the greatest diameter, are made use of for this purpose.

In covering the chicks the mother hawk invariably steps from one of these places, where the dissection has taken place, to the other, thus crossing the nest, and, turning round, settles herself down with her head towards the place thus left. This seems an odd performance, for it would surely be as easy for her to cover from where she is and has, all the while, been standing and distributing. The fixity of so trivial a habit is therefore to be noted. It shows the force of routine—a factor that may be of considerable importance in the philosophy of bird antics, especially some stereotyped and apparently useless ones, appertaining to combat. It would seem to be part of the duties of the male Sparrow-Hawk, whilst in the neighbourhood of the nest, to keep intruders away from it.

So far as I am aware, the specialisation of the parental duties in the Sparrow-Hawk is not shared by other raptorial species, nor is the disparity of size between the male and female, characteristic of the family, in their case so great. Possibly these two facts may be inter-related. If, as would seem to be the case, the Sparrow-Hawk is accustomed to pursue its quarry into covert, and there seize it, the male, as the smaller, would probably have an advantage over the female, and be the quicker

taker of the two. He might, therefore, often have met the female as she was leaving or preparing to leave the home-wood, with fresh quarry, and if this was sometimes taken by her, as being the more eager of the two in the actual feeding of the chicks, the present system might have gradually grown out of these elements. It is common, moreover, for the hen bird to brood her chicks longer and oftener than the male, and this would also have helped in the formation of the habit.

In an article entitled "My Eyas-Musket," which appeared in 'Country Life' of November 6th, 1909, and in which the domestic habits of a pair of Sparrow-Hawks are recorded, it is stated that, during two days, the prey brought in to the nest by the female was already plucked and decapitated, that the young were fed on the entrails only, and that the remains were carried away by the mother bird. My observations of June 23rd and 27th tend to corroborate, taken together, the first two of these statements, but my position on the ground, and at some distance, did not allow me to see more positively, or to confirm the impressions then gained. What is said in regard to the plucking justifies my inference that this is done by the male, since I was able to conclude with certainty that the female did not pluck what she received from him before flying with it to the nest; yet, as now appears, it is plucked when she reaches it. Only "to some extent," however, and therefore, as I never saw the female pluck it even then, I conclude that a good many feathers are swallowed by her. The final statement that the remains of the birds brought to the nest are removed from it by the female is at variance with what I observed, and although, owing to my not very advantageous position in regard to the nest itself, such removal might have been missed by me, on this or that occasion, yet owing to the sudden and unpremeditated manner in which many of these exits were made, and the special purpose of others, I am certain that in the great majority of cases the bird did not remove anything, though her feeding, once, shortly after leaving the nest, and without having joined the male, is susceptible of this interpretation, as well as the one I have suggested—a previous deposit, namely. The 'Country Life' chicks were, however, a fortnight old, and the observations in connection with their feeding extended over two days only. The chicks in

the nest watched by me had been hatched only ten days, as far as I could judge, when I left, and during the whole of this time it was the habit of the female to take her meals on the nest, as well as in trees, before coming to it. This would affect the habit of removing the remains if, as seems likely, the hawk removes them, when she does do so, only in order to devour them elsewhere. In the account referred to it is mentioned that "a clatter arose in the wood, and mobbed by a troop of small birds, especially Blackbirds, the female hawk came flying down to the nest with the body of a victim clutched in her claws." Only on one occasion did I see anything at all resembling this, and that was when the two Orioles followed the male, who was carrying booty, into the plantation, though at a considerable distance. Otherwise there was never any mobbing whatever. This small sombre plantation was not, indeed, much frequented by small birds. Still, there were some in it and many round it—as witness the constant supply—which makes this difference somewhat remarkable. The male hawk, too, must generally have flown up, with his booty, over low trees and undergrowth—the coverts which he seemed regularly to beat for game. It has often occurred to me that the Cuckoo is much more frequently followed by small birds than the Sparrow-Hawk, for which it is supposed to be mistaken; and when sitting perched it is sometimes so persecuted as to be driven from tree to tree, or right out of any small plantation or coppice. This I have seen, and I have seen small birds fly right at its head and peck it severely, when thus at rest. On the deception theory, the Sparrow-Hawk should be treated in the same way; but is it? I have also seen the Turtle-Dove pursued by a small bird. Was it mistaken for a Cuckoo, or could it have been for a hawk?

THE DISTRIBUTION OF BRITISH ANNELIDS.

BY THE REV. HILDERIC FRIEND.

(Continued from p. 146.)

BIBLIOGRAPHY.

1.—‘A Catalogue of the British Non-parasitical Worms in the British Museum.’ By George Johnston, M.D. London, 1865.

2.—‘A Monograph of the Order Oligochæta.’ By Frank E. Beddard, M.A., F.R.S. Oxford, 1895.

3.—“Contributions towards a Monograph of the British and Irish Oligochæta.” By Rowland Southern, B.Sc. Proc. Roy. Irish Acad. vol. xxvii. 1909.

4.—“The Oligochæta (Earthworms and their Allies) of the Forth Area.” By William Evans, F.R.S.E. Proc. Roy. Phys. Soc. Edin. vol. xviii. 1910.

5.—“British Tree and Earthworms.” By Rev. Hilderic Friend, F.L.S. Journ. Linn. Soc. vol. xxiv. 1892; and other papers alluded to by Beddard and Southern.

Let us now inquire into our authorities. It is a striking fact that, while almost every Natural History Society carefully records finds among flowering plants, lichens, mosses, micro-fungi, butterflies, beetles, and all other classes of plants and animals, none has ever given attention to our marvellous range of Annelids.* With the exception of the papers contributed by myself during the past twenty years to a vast number of local magazines, journals, and newspapers, I do not know of anything having been done in England to further our knowledge of their distribution; while Mr. Evans of Edinburgh and Mr. Southern of Dublin are the only other systematic workers in the whole of the British Isles.

* An exception must be made in the case of Devonshire, while Sussex and some others have published lists.

The first attempt to give information on the subject, if we omit minor references in general books, was made by Dr. Johnston (1). In his Catalogue we find eleven earthworms recorded, together with three or four other Oligochæts. The greater part of the volume, however, deals with marine worms, or Polychæts, and the few land forms which are mentioned need much revision to bring them into line with present-day nomenclature. The records are limited to some half-dozen localities, including Berwick, Kelso, Hammersmith, and Devon. In the year 1890, when I took up the study, there were three authorities in England: Professor (now Sir) E. Ray Lankester was known for his anatomical work, Beddard was preparing for the production of his splendid Monograph (2), and Benham was investigating the waterworms. The latter would doubtless long ago have produced a volume dealing with British Annelids, but for his removal from our shores. Lankester's work was only incidentally connected with distribution, while Beddard's was on a world-wide scale, and consequently mentions regions or countries only. His Monograph is of value, from our point of view, chiefly because it enables us to form an opinion on the probability or otherwise of finding any given genus or species of worm in the British Isles. The same applies also to his valuable article on the "Classification and Distribution of Earthworms" in the 'Proceedings' of the Royal Society (vol. x. p. 235 *et seq.*).

It is to Southern that we owe the first attempt (3) to supply a list of British Oligochæts, including alike the earthworms and the microscopic forms. His list, though it omitted many species of Enchytræids and other worms with which I had long been familiar, contains one hundred and thirty-five British species and subspecies, and must ever be regarded as the foundation upon which any future superstructure shall be raised. Naturally it gives us special help in relation to Ireland.

Next in order comes the valuable article by Evans (4) dealing with the Forth Area. Mr. Evans is a diligent collector, and has not confined his researches to the neighbourhood of Edinburgh, as we shall gather from later records.

To the foregoing I may add allusion to the "Check List of British Earthworms," published by myself, and revised from

time to time in 'The Zoologist,' 'Naturalist,' and other journals; the account of "Earthworms and Treeworms" (5), published in the 'Journal' of the Linnean Society; and the many papers in 'Science Gossip,' 'Essex Naturalist,' 'Gardeners' Chronicle,' and elsewhere, which have during the past twenty years issued from my pen. The results will all be found embodied in the following lists.

We come now to the question: What plan is best adapted for securing an accurate idea of the distribution of British Earthworms as at present known? I propose, first of all, to name the English counties alphabetically, so that a collector in any part may see at a glance what has already been recorded for any particular district. Scotland, Ireland, and Wales will then be taken, and when the county records have been tabulated, a second list will be supplied, showing the known distribution of each species. The smaller worms will afterwards be treated in the same fashion. For details respecting species the reader is referred to the List (*ante*, p. 143), while information relating to their peculiar habits and tastes will be supplied when we come to specific distribution. The Isle of Wight, Isle of Man, Scilly Isles, and Channel Islands will each be taken separately, and in like manner special records may be made for Kew Gardens and Chelsea. There are no fewer than ten counties for which at present there is no authentic record known to me. May I appeal to naturalists in Bedford, Berks, Cheshire, Durham, Rutland, and elsewhere to help me in my attempts to obtain information respecting their Annelid fauna? A beginning may be made with the commonest kinds found in every garden, field, and wayside. The worms should be sent, alive, in tins padded loosely with moss. Tins should not have holes punctured in them, as the worms crawl out and perish in the wrappings. The lids should fit loosely, so as to allow of sufficient ventilation, and the boxes addressed: 110, Wilmot Road, Swadlincote, Burton-on-Trent.

COUNTY RECORDS.

1. BEDFORD.—No records.
2. BERKSHIRE.—No records.
3. BUCKINGHAMSHIRE.—April 25th, 1892, Mr. Henry Blaby,

of Brackley, on the borders of Northants, Oxford, and Bucks, collected a series of worms for me on the Buckingham border. It contained (1) *Lumbricus terrestris*, L.; (2) *L. castaneus*, Sav.; (3) *Allolobophora longa*, Ude; (4) *Aporrectodea chlorotica*, Sav.; (5) *Allolobophora caliginosa*, Sav. (form *turgida*, Eisen); (6) *Eisenia fœtida*, Sav., known as the Brandling; (7) *Dendrobæna subrubicunda*, Eisen; (8) *Allurus tetrædrus*, Sav., and possibly an immature specimen of *Bimastus eiseni*, Levinsen.

July 26th, 1901: Mr. Mark Webb (now editor of 'Knowledge') sent me 2, 5, 6, and 7 from Langley St. Mary's; (9) *Lumbricus rubellus*, Hoffm.; (10) *Eisenia rosea*, Savigny, together with *Aporrectodea chlorotica*, from Burnham Beeches; and (11) *Dendrobæna mammalis*, from Langley and Eton. I have the latter also from High Wycombe and Cressicks, where I have also personally collected all the foregoing. Total, 11.

4. CAMBRIDGESHIRE.—In 'Life Lore,' vol. i. p. 68, I find (1) *Allurus tetrædrus*, Sav., reported for Cambridge. My own researches were limited to the Botanic Gardens, Sept. 27th, 1905. (2) *Lumbricus terrestris*, L.; (3) *L. rubellus*, Hoffm.; (4) *L. castaneus*, Sav.; (5) *Allolobophora caliginosa*, Sav. (form *turgida* prevails); (6) *Eophila icterica*, Sav., was recorded, I believe, for the first time for Britain; (7) *Allolobophora longa*, Ude; (8) *Eisenia fœtida*, Sav.; (9) *E. rosea*, Sav.; (10) *Aporrectodea chlorotica*, Sav.; (11) *A. cambrica*, Friend; and (12) *Dendrobæna subrubicunda*, Eisen, were also found, and reported in the 'Gardeners' Chronicle' later on. I added shortly after: (13) *Octolasion cyaneum*, Sav. (= *Allolobophora studiosa*, Rosa); (14) *A. trapezoides*, Dugès (typical form); confirmed the record for *Allurus tetrædrus*; and on July 26th, 1907, had the pleasure of placing (15) *Allolobophora hermanni*, Michaelsen, on the British List (see 'Report of the Botanic Garden Syndicate,' June 6th, 1908). Oerley records the finding of another worm at Cambridge, known as *Allolobophora platyura*, and by many other synonyms (Rosa, 'Revisione de Lumbricidi,' p. 43); but so far I have failed to identify it. Sept. 30th, 1909, I examined a further supply, kindly sent by Mr. Lynch, and found (16) *Dendrobæna arborea*, Eisen, besides confirming several of the foregoing species. Total, 16.

5. CHANNEL ISLANDS.—On June 18th, 1892, I received from my sister, Nurse Hetty Friend, a consignment of earthworms

which she had collected for me in Sark. It contained five species, besides an Enchytræid, leech, and other things. These were: (1) *Lumbricus rubellus*, Hoffm.; (2) *Aporrectodea chlorotica*, Sav.; (3) *Eisenia foetida*, Sav.; (4) *Dendrobæna subrubicunda*, Eisen; and (5) *Allurus tetrædrus*, Sav.

In November, 1909, Mr. Church, of Jersey, sent me eleven species from that island, collected by his daughters. These included the foregoing, except *Allurus*, and added: (6) *Lumbricus terrestris*, L.; (7) *L. castaneus*, Sav.; (8) *Allolobophora longa*, Ude; (9) *A. turgida*, Eisen; (10) *A. trapezoides*, Dugès (these two being distinct forms in Jersey); (11) *Eisenia rosea*, Sav.; and (12) *Octolasion cyaneum*, Sav. Total, 12 for Sark and Jersey.

6. CHELSEA BOTANIC OR PHYSIC GARDEN. — The Annelids of the Physic Garden are of peculiar interest, but the list is doubtless still very imperfect. While I have personally visited the Garden, I am specially indebted to the Curator (Mr. William Hales) for his great courtesy and frequent attentions. In the 'Gardeners' Chronicle,' Oct. 23rd, 1909, will be found a special report on *E. icterica*, Sav., which I had already recorded for Cambridge.

August 11th, 1909, I found: (1) *Lumbricus terrestris*, L.; (2) *Allolobophora longa*, Ude; (3) *Eisenia rosea*, Sav.; and (4) *Octolasion gracile*, Oerley. I gave an account of the latter in the 'Gardeners' Chronicle,' June 11th, 1910, but now find that my Chelsea record was overlooked.

October 23rd, 1909, in addition to the foregoing, I received (5) *Eophila icterica*, Sav.; (6) *Allolobophora caliginosa*, Sav.; and (7) *Octolasion cyaneum*, Sav. The list was revised and extended in April and May, 1910, when, in addition to some interesting species of *Perionyx* and *Perichæta*, which breed freely in the greenhouse, I found again *O. cyaneum*, *O. gracile*, *E. rosea*, *E. icterica*, and added (8) *Octolasion lacteum*, Oerley (= *Allolobophora profuga*, Rosa); (9) *Allolobophora turgida*, Eisen; two interesting varieties of *Eisenia rosea*, Sav.; and (10) *E. foetida*, Sav. On May 3rd I added two further species, viz. (11) *Lumbricus rubellus*, Hoffm., and (12) *L. castaneus*, Sav., besides confirming several former records.

It will be seen that the features of this collection are some-

what foreign and full of instruction. Twelve species, besides aliens, so far recorded.

7. CHESHIRE.—No records.

8. CORNWALL.—So far as I have been able to ascertain, there were no records for this county previous to 1910. I am indebted to Mr. A. C. Bartlett, formerly of Pencarrow, Washaway, for very valuable help in my researches, and for the addition of what is probably a new worm to our British Lists.

February 11th, 1910, received from Mr. Bartlett (1) *Lumbricus terrestris*, L.; (2) *Allolobophora longa*, Ude; (3) *A. turgida*, Eisen; (4) *Aporrectodea chlorotica*, Sav.; (5) *Eisenia rosea*, Sav.; and (6) *Octolasion cyaneum*, Sav.

February 21st, along with the foregoing (7) *Eisenia fœtida*, Sav.; (8) *Lumbricus rubellus*, Hoffm.; (9) *L. castaneus*, Sav.; (10) *Dendrobæna subrubicunda*, Eisen; and (11) *Eisenia veneta*, Rosa. I have named the variety of this polymorphic species *carnea*, but have not yet published the description.

April 29th, 1910, I received a further set of worms, which included a new worm, which I provisionally record as (12) *Helodrilus elongatus*, Friend, along with (13) *H. oculatus*, Hoffm. Unfortunately Mr. Bartlett was leaving Pencarrow at this time, and I have been unable to get fresh material for my work. It may be, therefore, that (12) *Helodrilus* will prove to be a *Sparganophilus*, or allied form, and that what exactly resembles the immature *H. oculatus* (13) will prove to be something else. An article entitled "Worms in a Cornish Garden," published May 7th, 1910, in the 'Gardeners' Chronicle,' was based on the material supplied me by my valued correspondent. Eleven species already identified, with one or two still *sub judice*.

9. CUMBERLAND.—In 1890 I commenced the study of Annelids by collecting around Carlisle. My earliest gleanings were submitted to Dr. Benham, and are recorded from his lists. The first list contains (1) *Lumbricus terrestris*, L.; (2) *Allolobophora longa*, Ude; (3) *Aporrectodea chlorotica*, Sav.; (4) *Eisenia fœtida*, Sav.; (5) *Allolobophora turgida*, Eisen; (6) *Allurus tetrædrus*, Sav., the whole having been got near the Eden or at Monkhill. In June of the same year I added (7) *Lumbricus rubellus*, Hoffm., and (8) *L. castaneus*, Sav., by gleaning at Dalston, and (9) *Dendrobæna arborea*, Eisen, was found in the decayed stump of

a tree. August was also a busy month, and resulted in (10) *Bimastus eiseni*, Levinsen, which Benham reported as being new to Britain. I found *L. castaneus* and *A. chlorotica* on Cross Fell, and several of the foregoing in other localities (see "Earthworms of the North of England" in the 'Naturalist,' January, 1891). Though I left Carlisle in 1891, I have collected in Cumberland at frequent intervals since, and in April, 1899, recorded *A. longa*, *A. caliginosa*, *A. chlorotica*, *L. rubellus*, and *Allurus tetrædrus* from the Cockermouth and Keswick district. I added (11) *Dendrobæna subrubicunda*, Eisen, and (12) *D. mammalis*, Sav. (= *A. celtica*, Rosa), which I had found at Langholm in 1890. I found near the Art School and station at Keswick (13) *Octolasion lacteum*, Oerley, and several of the foregoing on Latrigg, Catbells, and elsewhere, besides discovering many interesting Enchytræids and waterworms, which will be reported later.

In February and March, 1911, I visited Cumberland again, and made careful investigations for both the terrestrial and fresh-water forms. At Brougham I found (14) *Octolasion cyaneum*, Sav., as well as *A. chlorotica*, *A. longa*, *L. terrestris*, *L. rubellus*, *L. castaneus*, *A. turgida*, *D. mammalis*, and *D. arborea*. On the way to Newton Moss I discovered (15) *Lumbricus festivus*, Sav. (= *L. rubescens*, Friend), as well as *A. chlorotica*, *A. longa*, *L. terrestris*, *L. rubellus*, *L. castaneus*, *Allurus tetrædrus*, and *D. mammalis*, while I added (16) *Eisenia rosea*, Sav., to the list. I had the further pleasure of finding (17) *Octolasion gracile*, Oerley, at Caldewlees, not far from Carlisle.

It is interesting to note that *D. subrubicunda* was found at 2800 ft. on Skiddaw, that a peculiar variety of *A. chlorotica* occurs on the shores of Bassenthwaite Lake (perhaps = *L. anatomicus* of old authors), and that a golden form of *Allurus* (*luteus*, Friend) occurs in the Caldew at Cummersdale. *L. rubellus* is found at sea-level at Silloth, and on the top of Penrith Beacon. The district, owing to its mountains and lakes, streams and estuaries, is peculiarly rich in the lesser forms, and, though I have done a good deal of research among these, much remains to be done. Total number of earthworms thus far recorded, 17.

10. DERBYSHIRE.—In September, 1902, I spent a few days in the Peak District, and recorded in the 'Naturalist' of January,

1903, eleven species of earthworms and two or three Enchytræids. These included (1) *Lumbricus terrestris*, L.; (2) *L. rubellus*, Hoffm.; (3) *Octolasion cyaneum*, Sav. (or *O. lacteum*, Oerley); (4) *Eisenia fetida*, Sav.; (5) *Dendrobæna subrubicunda*, Eisen; (6) *Aporrectodea chlorotica*, Sav.; (7) *Allolobophora caliginosa*, Sav.; (8) *A. longa*, Ude; (9) *Eisenia rosea*, Sav.; (10) *Dendrobæna bæckii*, Eisen (= *L. octædra*, Sav.), a rare worm in most parts of England; and (11) *Allurus tetrædrus*, Sav.

September 17th, 1910, digging in my garden at Swadlincote, in South Derbyshire, I found *A. longa*, Ude, very common, *O. cyaneum*, Sav., a little less so; *L. terrestris*, L., more rare, and *L. rubellus*, Hoffm., but seldom. October 29th, when going into the country, I found (12) *Lumbricus castaneus*, Sav., and (13) *Dendrobæna mammalis*, Sav. (= *celtica*, Rosa), while I further found the latter at Smisby in April, 1911, plentifully, and provided with spermatophores. Nearly all the worms found in the Peak District I found also in this neighbourhood, while (14) *Dendrobæna arborea*, Eisen, is found wherever one meets with decaying tree-stumps. *Allurus* and *A. chlorotica* are common everywhere. On April 14th I found a worm at Swain's Park Crossing, which I at first took to be *Bimastus eiseni*, Levinsen. It proves, however, to be a new British worm, and, as it seems to be also new to science, I have named it (15) *Dendrobæna merciensis*. As my present district lies at the boundary of three or four counties, it is difficult at times to say exactly to which a specimen is to be referred. Hence the Leicestershire list may be compared with the one from Derbyshire, and those of Stafford and Warwick. Present record, 15 species.

(To be continued.)

A NEW EARTHWORM.

BY THE REV. HILDERIC FRIEND.

AIDED by a Government grant, I have recently been enabled to give special attention to the Annelids of Great Britain, and to add considerably to our knowledge of their numbers and distribution. In this paper I propose to place on record a new discovery. So far as I can at present learn, the worm which I am to describe is not only new to Britain but also to science. As I first found it in Derbyshire, not far from the ancient capital of Mercia, I propose to call it

DENDROBÆNA MERCIENSIS, Fr.

When first discovered it was mistaken for *Bimastus eiseni*, Levinson, but a little fuller examination showed that it differed from that species in important details, just as it resembled it in others. *B. eiseni* has the head arrangement of *Lumbricus*, so has *D. merciensis*, i. e. the prostomium makes a perfect mortise and tenon with the peristomium, or constitutes what Michaelsen terms the "tanylobisch" type. It is, however, not so pronounced as in *Lumbricus*. In *B. eiseni* the girdle begins on segment 25, but sometimes as early as 24, in *D. merciensis* it begins on 24, but eventually includes two other segments, and extends from 22 to 31. We have no other worm, except *Allurus*, in which the girdle assumes such a forward position. In *D. merciensis* the setæ are not strictly paired, nor is the colour of the purple *Lumbricus* type, which characterises *B. eiseni*.

The new worm is a denizen of the leaf-mould, and may possibly in the past have been mistaken for *D. constricta* or *D. subrubicunda*, which it closely resembles. But it may at once be distinguished from these by the shape of the head, the position of the girdle, the absence of tubercula pubertatis, and the nature of the male pores. These latter organs are found on segment 15, but whereas in *D. subrubicunda* they are on prominent papillæ, which often affect the adjoining segments, in the new worm they are somewhat sunk, though clearly visible. The worm is of the warm brown or chestnut colour which is characteristic of this group of worms, with a ventral surface free from pigment, and an absence of iridescence dorsally.

D. merciensis has about one hundred segments, and is some two to three inches in length. I have noticed two or three peculiarities which seem to deserve mention. All our earthworms have their own special modes of progression. Some are sluggish, others active, some always follow their head, others prefer to go backwards. But in the new worm I notice a peculiarity which has not been met with before in our purely native worms, except in a species found in Kew

Gardens, though it is common among exotics. All who have studied certain Perichæts know that they have a habit of doubling themselves like a fish about to leap, then with a sudden rebound flinging themselves to a considerable distance. This is the habit of *D. merciensis*, and I have also observed it in certain species of white worms (Enchytræids), but at present we know too little of the past and present life-history of worms to be able to suggest the reason for this peculiarity.

In one specimen which I captured the tail consisted of only twenty segments instead of sixty or eighty, but the length was only a little short of the normal. The extension had been secured by triannulation of the segments, so that each one was nearly three times as broad as the type. This curious fact, which I have constantly seen confirmed in other species, is very suggestive. We know too little about the life processes among the lower animals to dogmatize as to the meaning of this, but it would seem that a certain average length of tail is necessary for each kind of worm to enable it properly to work up the material which passes through its body. In most British Earthworms there is a gizzard occupying two segments in front of the girdle. Behind these segments (usually about the 17th or 18th) the intestine runs right through the body to the posterior extremity. It contains a curious invagination known as the "typhlosole," and a certain amount of research has been carried out by one or two physiologists with a view to ascertaining what changes the food undergoes in passing along the intestine. I do not, however, know that anything has been done to show why a certain length of tail is necessary. This is only one of the many problems which the study of earthworms suggests, and it has an important bearing on agricultural and other questions.

I am waiting for an opportunity to dissect the new worm, and give details of its internal anatomy. This is necessary before one can finally settle the genus, but there can be little doubt on that point when all the external evidence has been weighed. Meanwhile I may conclude with a brief summary:—

D. MERCIENSIS, Friend. — Length, two or three inches; warm brown or chestnut coloured dorsally, the ventral surface without pigment. Head entirely cutting the first segment, as in *Lumbricus*, though not so deeply. Girdle from the 22nd to 31st segment (a total of ten); without tubercula; fused on the back when fully mature, segments 22 and 23 being the last to be affected. Male pores on segment 15 clearly seen, but not attended by swellings or papillæ. Dorsal pores large, beginning in intersegment $\frac{1}{2}$, but not seen on the girdle (as they are, for example, in *Eisenia rosea*, Sav.) when fused. Moves, when irritated, by powerful jerks. Habitat: Leaf-mould by woods and in gardens, near Repton, the old capital of Mercia.

ON THE INTERBREEDING OF THE SONG-THRUSH AND BLACKBIRD IN MIDDLESEX.

BY GILBERT E. ADAMSON.

(Sec. Middlesex Zoological Society; Soc. d'Orn. Eur.).

IN March, 1910, I found a nest of the Song-Thrush (*Turdus musicus*) in a lane leading from Edgware to Elstree, about three-quarters of a mile south of Edgwarebury. It contained three eggs, which bore a very strong resemblance to those of the Redwing (*T. iliacus*). As the winter had not been particularly severe, I conjectured that a straggling pair might possibly have remained in England to breed. Richard Jeffries has recorded this from Surrey ('Wild Life in a Southern County,' chap. xvi.). I, accordingly, awaited the return of the parent birds. In a few minutes the mother bird returned, and I was rather surprised to find that she was not a Redwing, but a mature and healthy Song-Thrush. Shortly afterwards she was joined by her mate, a male Blackbird (*T. merula*). Upon my approaching the nest the two birds flew to an adjacent hedge. The nest was a typical nest of the Song-Thrush, lined with the usual layer of mud. I took one of the three eggs, and noted the following points of difference:—

	Normal <i>T. musicus</i> .	Normal <i>T. merula</i> .	Hybrid.
Ground colour :—	Light greenish blue ..	Light greenish	Whitish green
Markings :—	Deep brown; not clustered	Deep brown; clustered	Light brown; clustered
Size :—	28 × 20 mm.	28 × 22 mm.	29 × 21 mm.
Shape :—	Polycinic*	Polycinic	Chenistic*

This occurred on March 30th. On the following Tuesday another egg resembling the former three in size and appearance was laid; after which the nest was abandoned. I am inclined to think that the egg last laid was never incubated, but the first three undoubtedly were. In all these cases of interbreeding I

* Polycinic: The usual "egg-shape" (*Turdidæ*, &c.). Aethistic: Shape of the eggs of the Gull tribe. Rotund: Round (*Strigidæ*). Isoplatic: Of equal width (*Alcedinidæ*). Chenistic: Shape of eggs of the Goose tribe (*Anseridæ*). Pyriform: Pear-shaped (*Charadriidæ*, &c.).

have always found that the male bird has the influence over the external appearance of the shell of the egg.

As I was again visiting the district this year, I found two identical eggs in a last season's nest. I am unable to say whether or not the nest was the same used by the pair in 1910. The eggs were quite cold, and no bird visited the nest. The next day it was blown into the roadway, as the rain and wind had loosened the foundations of the old nest. The eggs were, of course, smashed, and their contents were in a perfectly liquid state.

The question naturally arises: "Do these hybrid eggs ever hatch out, and, if so, whom do the nestlings resemble?" Mr. Berry recorded in the '*Glasgow Naturalist*' (vol. ii.) that no difference could be seen between the young hybrids and young Blackbirds. This, however, though not uncommon, is not always the case.

The birds produced from these hybrid eggs are almost always ugly in appearance. They seem to be pre-eminently Thrushes, but are sometimes uniformly darker, or darker in patches. Very often they possess a Blackbird tail or beak, more often the former. Although young Song-Thrushes are normally darker than their parents, they are in no way so dark as are these hybrids.

The reason for this union, in nature, can hardly be the absence of birds of the same species. In captivity, Thrushes and Blackbirds will invariably mate and interbreed. Again, the district in which the birds are seems to affect interbreeding. I have noticed this in Middlesex and Buckinghamshire, and in both cases more than one pair of birds were interbreeding. In the Edgware and Barnet district it is, I think, very noticeable, and in both these districts the Song-Thrushes far outnumber the Blackbirds. An account appeared in the '*Country Side*' (vol. i. p. 51) of a nest of hybrids at Stanmore, a village near Edgware. The writer, finding Blackbird's eggs in a Thrush's nest, was persuaded that the eggs were laid by stress of circumstances in a Song-Thrush's nest. This, of course, occasionally occurs, but I am rather inclined to think that this was another case of interbreeding in North Middlesex.

The explanation often given that the female bird, being

deprived of her own mate, had been forced to mate with one of an allied species, seems discredited when we find so many cases of interbreeding as early as March.

The simplest explanation seems to be that *in certain districts* the female birds are totally indifferent as to whether they mate with one of their own species or with one of an allied species. Although this seems so opposed to natural direction, I do not think that in practice it would be so difficult.

We may, then, safely conclude that Blackbirds of both sexes *do* mate and interbreed with Song-Thrushes, and the eggs are externally influenced, *to a certain extent, by the male bird*, and that the young resemble the mother bird, with some of their father's characteristics. By far the most usual form of Thrush-interbreeding is the male *T. merula* with the female *T. musicus*. But it must not be forgotten that in nine cases out of ten the eggs are unfertile, and are never incubated by the female.

NOTES AND QUERIES.

MAMMALIA.

Water-Shrew in Surrey.—I happened, on April 11th, to observe a Water-Shrew (*Crossopus fodiens*) on the bank of a small stream which flows into the Tillingbourne at Abinger. Although seldom seen, there is no reason to suppose that this very interesting small mammal is not generally distributed throughout Surrey. A collector tells me that he has discovered and trapped numbers near Oxshott and near Milford. I was able to watch the one I have mentioned for some minutes at two yards' distance. Its powers of vision did not seem great, though when I moved it took refuge for a moment under the bank. I was struck with the extraordinary strength with which it swam against the clear, rapid stream of the narrow brook. It remained about ten or fifteen seconds under water, always heading against the stream, and I could see it nosing the bottom and poking under the stones like a trout grubbing for food. Its movements were exceedingly rapid, and when it came ashore and shook itself, as it did at frequent intervals, its fur seemed as dry and soft as a mole's. Since most Shrews are nocturnal, I must add that this one was active in brilliant sunshine at four p.m.—HAROLD RUSSELL (Shere, Surrey).

AVES.

White Wagtail (*Motacilla alba*), on Migration, visiting Bartragh Island, Killala Bay.—An interesting fact in the history of *Motacilla alba* is that, on the spring migration to their northern breeding haunts, the line of flight of part of the migratory host appears to be across Ireland, and in their course pass over the island of Bartragh, apparently going due north over Killala Bay, as if to Iceland and Norway. I first met this interesting species on April 25th, 1851, on the island of Bartragh, when observing a solitary bird feeding, after the harrows, in a field where barley was being sown. My attention was attracted by its very light grey-coloured back, and the large amount of white on forehead and cheeks, and also by its quiet movements while feeding. It at once occurred to me that it was *Motacilla alba*, a bird I had never seen before, so, changing the charge in

my gun to No. 8 shot, I secured the first recorded specimen of that bird ever obtained in Ireland. However, in order to be certain of my identification, I sent the bird by post to my old and valued friend, the late Dr. J. R. Harvey, of Cork, for his fine collection of native birds, but unfortunately the specimen was delayed too long in the post-office, and when it reached my old friend it was in a state quite unfit for preservation; but fortunately he was able to determine that it was a specimen of the true *M. alba*. From that time until April 29th, 1893, nothing more was seen or heard of visits of this species to Bartragh, but on that day, with a couple of young friends whom I took in my boat to Bartragh, we came across a pair of these birds feeding on a marshy flat pasture that extended from the base of the sandhills to the shore of the estuary. This flat was the usual resting and feeding place of any birds visiting Bartragh, and where, if any birds were on the island, they were always to be met with. After watching these birds for some time, I managed to secure one—a fine male—but the other, after the shot, rose and flew right away. At that time I had no idea that this species visited Bartragh regularly, merely looking on them as uncertain stragglers; but in order to find out if such was the case, I asked my young friend, the late Mr. A. K. Kirkwood, to keep a good look-out for any visitors to the island, for, as he resided in Bartragh House, he had the best opportunities for observing any strange visitors. However, it was not until April 29th, 1898, that this species was again met with, and since then, through his kind assistance while he lived, and, after his lamented death, through that of his father, Capt. Kirkwood, I have been enabled up to the present date to keep a record of the yearly dates of arrival, and of the number of birds seen on each visit. The number of birds visiting the island and the duration of their stay depend nearly altogether on the state of the weather. If northerly or north-easterly winds prevail at the time of passage, some birds are sure to be met with, but if the weather is calm, their stay may be only a few hours before they resume their northern flight; but if the wind rises to a gale, they may remain on the island for several days. I now append list of dates and numbers of birds seen or met with:—

1898.—April 29th. Five birds, only remained a few hours. May 10th. A flock of fifteen, only remained that night. 19th. Three birds seen. 26th. Two birds obtained.

1899.—April 21st. One bird seen. May 4th. Two birds in farmyard.

1900.—April 27th. One bird in farmyard.

1901.—May 12th. Two feeding on the flat. 20th. One bird on lawn.

1902.—May 8th, 9th, 10th, and 11th. Several birds seen.

1903.—May 17th. Ten birds feeding on marshy flat. 18th. Five seen in garden.

1904.—May 10th. Six birds, but only stayed a few hours. 13th. One solitary bird seen.

1905.—April 29th. Five birds, remained till May 4th. May 3rd. Eight birds seen, but went next morning.

1906.—May 1st. Two birds seen, but left shortly after. 5th. Six appeared, but did not remain. 9th. Four birds arrived. 10th. Five seen.

1907.—None were seen this season, but some may have arrived and departed unseen.

1908.—May 6th. Eight birds seen. 7th. Ten observed near garden.

1909.—April 25th. One bird seen. 26th. A flock of ten arrived, and remained for a week.—ROBERT WARREN (Ardnaree, Monkstown, Co. Cork).

Breeding of the Honey-Buzzard in England.—"I found the Honey-Buzzard's egg on June 8th, 1867, in Penyard Wood, Weston-under-Penyard, Herefordshire. The birds had taken possession of an old nest of Common Buzzard in an oak about forty feet from the ground, and had re-lined it with green oak-leaves. About eight days after finding the nest I climbed to within about a yard of it before the bird flew from it; thinking it was empty, I was on the point of leaving it when I caught sight between the oak-leaves of a small piece of the blood-red egg, about the size of a sixpence. The bird had evidently plucked off a sprig of oak-leaves to cover the egg with before leaving the nest. As the nest-tree was within about forty yards of a road, and the next day was Sunday when the wood was much frequented by town boys, I hastened home and painted a hen's egg, which I substituted for the Honey-Buzzard's egg. . . . On Monday morning I . . . found the broken hen's egg and the inside of the nest at the foot of the nest-tree. . . . The egg is creamy, marked with red and blotched heavily at both ends with very dark red, almost black. The same year, in August, the Honey-Buzzards re-lined an old nest of Buzzard, about a mile from the first nest in the same wood. But though I climbed to it many times, I never found any eggs in it. The next year (1868) I was unfortunate in disturbing the Honey-Buzzard from an old nest of Buzzard which

it had re-lined with green oak-leaves, in Nacker's Hole Wood, a small wood opposite, and about half a mile distant from Penyard Wood. . . . I afterwards heard the Honey-Buzzards in the Forest of Dean, but looked in vain for the nest."—W. C. PALMER ("The Admirals," Hingham, Attleborough, Norfolk).

[The above account is extracted from a letter dated April 1st, 1911, written to Mr. F. Norgate, who has kindly forwarded it to us for publication.—ED.]

IN a note under the above heading (*ante*, p. 150), Mr. Jourdain calls attention to a nest at Burnham Beeches, *Berks.* I would like to point out that Burnham Beeches is not in Berks, but *Bucks.*—HEATLEY NOBLE (Temple Combe, Henley-on-Thames).

Spring Arrivals of Sandwich Terns in Killala Bay and the Moy Estuary.—While residing at Moy View, Co. Sligo, from 1851 up to 1909, I kept a record of dates of the spring arrivals of Sandwich Terns to Killala Bay and the Moy Estuary. The list of dates is rather imperfect, owing to occasional absences from home and other unavoidable circumstances. The exceptional omissions were 1856–1863, 1864–1866, 1870–1872, 1872–1874. However, all the other dates were noted down regularly. It will be interesting to compare these dates with those of arrival at the English breeding haunts. The irregularity of dates of arrival is hard to account for, because some arrivals of the birds took place in very cold weather in March. On one occasion there were six inches of snow on the ground, and for some days the thermometer indicated six degrees of frost, and yet the Terns were as lively and noisy as if in warm May weather:—1851, April 7th; 1852, March 23rd; 1853, April 7th; 1854, March 21st; 1855, April 1st; 1856, March 20th; 1863, April 2nd; 1864, April 16th; 1866, April 11th; 1867, April 15th; 1868, April 18th; 1869, April 26th; 1870, April 15th; 1872, April 30th; 1874, April 30th; 1875, April 15th; 1876, April 4th; 1877, March 29th; 1878, April 2nd; 1879, April 5th; 1880, March 24th; 1881, March 31st; 1882, March 30th; 1883, April 1st; 1884, April 3rd; 1885, March 30th; 1886, March 25th; 1887, March 28th; 1888, April 5th; 1889, March 28th; 1890, March 15th; 1891, March 28th; 1892, March 28th; 1893, March 23rd; 1894, March 27th; 1895, March 30th; 1896, April 3rd; 1897, March 22nd; 1898, April 3rd; 1899, March 26th; 1900, April 6th; 1901, April 1st; 1902, April 6th; 1903, April 11th; 1904, April 10th; 1905, April 4th; 1906, April 1st; 1907, April 4th; 1908, April 10th; 1909, April 10th.—ROBERT WARREN (Ardnaree, Monkstown, Co. Cork).

